

REMARKS/ARGUMENTS

Claims 2 and 4-7 are pending in this application. By this Amendment, Applicant AMENDS claims 2, 5, and 6 and CANCELS claims 1, 3, and 8-12.

Claims 2, 5, and 6 have been amended to be in independent form including all of the features of base claim 1. Claim 6 also includes a small grammatical amendment to correct minor informalities and to clarify the features recited therein. Accordingly, Applicant respectfully requests that this Amendment be entered, whether or not the Application is in condition for allowance, because it materially reduces and simplifies the issues for appeal.

Claims 1, 3, 5, 11, and 12 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Ogino (U.S. 2003/0007227) in view of Toyoda (JP 11-120491). Claims 2 and 4 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Ogino in view of Toyoda, and further in view of Sawayama et al. (U.S. 2004/0014488). Claim 6 was rejected under 35 U.S.C. § 103(a) as being unpatentable over Ogino in view of Toyoda, and further in view of Prince et al. (U.S. 5,440,322). Claim 7 was rejected under 35 U.S.C. § 103(a) as being unpatentable over Ogino in view of Toyoda and Sawayama et al., and further in view of Schilling et al. (JP 2001-215945). Claim 8 was rejected under 35 U.S.C. § 103(a) as being unpatentable over Ogino in view of Toyoda, and further in view of Schilling et al. Claim 9 was rejected under 35 U.S.C. § 103(a) as being unpatentable over Ogino in view of Toyoda, and further in view of Kawashima et al. (U.S. 6,188,380). Claim 10 was rejected under 35 U.S.C. § 103(a) as being unpatentable over Ogino in view of Toyoda, and further in view of Cole (U.S. 4,581,640).

As indicated above, Applicant has canceled claims 1, 3, and 8-12. Applicant respectfully traverses the rejections of claims 2 and 4-7.

Claim 2 has been amended to recite:

A display device mounted to a mode of transport comprising:
a first display area that is fixed with respect to the display device; and
a second display area that is fixed with respect to the display device, that is separate from the first display area, and that is closer to a position of an operator than is the first display area when the display device is mounted to the mode of transport;
a first luminance level output section arranged to output a first luminance level representing luminance of an image display produced in the first display area;

a second luminance level output section arranged to output a second luminance level representing luminance of an image display produced in the second display area; and

a luminance limiting section arranged to limit, according to the first luminance level and the second luminance level, the luminance of the image display produced in the first display area to be less than the luminance of the image display produced in the second display area; wherein

the first and second display areas are provided on a transmissive liquid crystal display device with separate backlights for each of the display areas; and

the luminance limiting section regulates output optical intensity of at least one of the separate backlights. (emphasis added)

Applicant has amended claim 2 to be in independent form including all of the features recited in original claim 1.

The Examiner alleged that the combination of Ogino, Toyoda, and Sawayama et al. teaches all of the features recited in Applicant's claim 2. More specifically, the Examiner alleged, "Ogino and Toyoda teach all that is required with reference to claim 1, but fail to teach separate backlights for each display area." To remedy this deficiency in the combination of Ogino and Toyoda, the Examiner relied on Sawayama et al., alleging, "Sawayama et al. teaches ... first and second display areas (5 and 20) are provided on a transmissive liquid crystal display device with separate backlights for each of the display areas (see paragraph 72, lines 14-15, paragraph 76, lines 3-4, and paragraph 93)." Thus, the Examiner concluded, "It would have been obvious to one of ordinary skill in the art at the time of invention to use separate light sources for the separate display areas such that the luminances of the display areas could be independently controlled based on the user's needs." Applicant respectfully disagrees.

Applicant's claim 2 recites the feature of "the first and second display areas are provided on a transmissive liquid crystal display device with separate backlights for each of the display areas."

The Examiner's proposed modification of the combination of Ogino and Toyoda based on the teaching of Sawayama et al. to provide this feature recited in Applicant's claim 2 is improper.

As discussed above, the Examiner admitted that "Ogino and Toyoda ... fail to teach

separate backlights for each display area.” Furthermore, the display device of Ogino only uses a single backlight 62 which emits light such that it is split by cylindrical lenses 71 to travel toward a driver and a passenger, as shown in Fig. 12 and discussed in paragraph [0057] of Ogino.

Sawayama et al. merely teaches that a device including a pair of separately arranged display units 5 and 20 which include separately arranged displays (such as separately arranged liquid crystal or EL displays) may be illuminated with separate backlights. Additionally, Figs. 1 and 2 of Sawayama et al. clearly show that the display units 5 and 20 are oriented in opposite directions from one another. Contrary to the Examiner’s allegations, Sawayama et al. does not teach or suggest that a single display device can be illuminated with two separate backlights.

At best, one having ordinary skill in the art at the time of Applicant’s invention would have merely been motivated to separate the two image displaying regions of Ogino into separate display devices each having their own backlight. One having ordinary skill in the art at the time of Applicant’s invention would not have been motivated to provide two backlights for the single display unit of Ogino because **Sawayama et al. clearly teaches that each display unit includes only one backlight.**

Thus, the combination of Ogino, Toyoda, and Sawayama et al. clearly fails to teach or suggest the feature of “the first and second display areas are provided on a transmissive liquid crystal display device with separate backlights for each of the display areas” as recited in Applicant’s claim 2.

Accordingly, Applicant respectfully requests reconsideration and withdrawal of the rejection of claim 2 under 35 U.S.C. § 103(a) as being unpatentable over Ogino, Toyoda, and Sawayama et al.

The Examiner relied upon Schilling et al. to allegedly cure the deficiencies of Ogino, Toyoda, and Sawayama et al. However, Schilling et al. clearly fails to teach or suggest the feature of “the first and second display areas are provided on a transmissive liquid crystal display device with separate backlights for each of the display areas” as recited in Applicant’s claim 2. Thus, Applicant respectfully submits that Schilling et al. fails to cure the deficiencies of Ogino, Toyoda, and Sawayama et al. described above.

Accordingly, Applicant respectfully submits that Ogino, Toyoda, Sawayama et al., and Schilling et al., applied alone or in combination, fail to teach or suggest the unique combination and arrangement of elements recited in Applicant's claim 2.

Claim 5 has been amended to recite:

A display device mounted to a mode of transport comprising:
a first display area that is fixed with respect to the display device; and
a second display area that is fixed with respect to the display device, that is separate from the first display area, and that is closer to a position of an operator than is the first display area when the display device is mounted to the mode of transport;
a first luminance level output section arranged to output a first luminance level representing luminance of an image display produced in the first display area;
a second luminance level output section arranged to output a second luminance level representing luminance of an image display produced in the second display area; and
a luminance limiting section arranged to limit, according to the first luminance level and the second luminance level, the luminance of the image display produced in the first display area to be less than the luminance of the image display produced in the second display area; wherein
the first luminance level output section is arranged to output the first luminance level according to image data for the image display produced in the first display area; and
the second luminance level output section is arranged to output the second luminance level according to image data for the image display produced in the second display area. (emphasis added)

Applicant has amended claim 5 to be in independent form including all of the features recited in original claim 1.

The Examiner alleged that the combination of Ogino and Toyoda teaches all of the features recited in Applicant's claim 5. More specifically, the Examiner alleged, "Ogino teaches ... the first luminance level output section is arranged to output the first luminance level according to image data for the image display produced in the first display area (see paragraph 43, lines 4-8 – the DVD data is output to the first display area ... and the first luminance level output section adjusts the luminance such that the passenger is able to view the DVD data, or, if the car is not moving, such that both the passenger and the driver can view the DVD data)"

and “the second luminance level output section is arranged to output the second luminance level according to image data for the image display produced in the second display area (see paragraph 43, lines 4-8 – the navigation data is output to the second display such that the driver is able to view the map and navigate the vehicle appropriately).” Applicant respectfully disagrees.

Applicant’s claim 5 recites the features of “the first luminance level output section is arranged to output the first luminance level according to image data for the image display produced in the first display area” and “the second luminance level output section is arranged to output the second luminance level according to image data for the image display produced in the second display area.”

Neither Ogino nor Toyota teaches or suggests these features.

Ogino teaches a display device in which a control shutter 20 is arranged to prohibit a driver of a vehicle from viewing an image produced by a DVD device when the vehicle is in motion, as discussed in paragraph [0043] of Ogino. However, Ogino does not teach or suggest altering the operation of the control shutter 20 in response to the image data displayed in the navigation and DVD display areas. Thus, Ogino clearly fails to teach or suggest the features of “the first luminance level output section is arranged to output the first luminance level according to image data for the image display produced in the first display area” and “the second luminance level output section is arranged to output the second luminance level according to image data for the image display produced in the second display area” as recited in Applicant’s claim 5.

Toyota merely teaches a luminance limiting section 115 that is arranged to reduce the luminance of an image. However, Toyota does not teach or suggest altering the luminance levels of images provided in two separate display areas based on the image data displayed in the two separate display areas. Thus, Toyota clearly fails to teach or suggest the features of “the first luminance level output section is arranged to output the first luminance level according to image data for the image display produced in the first display area” and “the second luminance level output section is arranged to output the second luminance level

according to image data for the image display produced in the second display area” as recited in Applicant’s claim 5.

Accordingly, Applicant respectfully requests reconsideration and withdrawal of the rejection of claim 5 under 35 U.S.C. § 103(a) as being unpatentable over Ogino and Toyoda.

Claim 6 has been amended to recite:

A display device mounted to a mode of transport comprising:
a first display area that is fixed with respect to the display device; and
a second display area that is fixed with respect to the display device, that is separate from the first display area, and that is closer to a position of an operator than is the first display area when the display device is mounted to the mode of transport;
a first luminance level output section arranged to output a first luminance level representing luminance of an image display produced in the first display area;
a second luminance level output section arranged to output a second luminance level representing luminance of an image display produced in the second display area; and
a luminance limiting section arranged to limit, according to the first luminance level and the second luminance level, the luminance of the image display produced in the first display area to be less than the luminance of the image display produced in the second display area; wherein
the luminance limiting section is arranged to correct pixel values for pixels of the image display produced in the first display area and/or pixel values for pixels of the image display produced in the second display area. (emphasis added)

Applicant has amended claim 6 to be in independent form including all of the features recited in original claim 1.

The Examiner alleged that the combination of Ogino, Toyoda, and Prince et al. teaches all of the features recited in Applicant’s claim 6. More specifically, the Examiner alleged, “Ogino and Toyoda teach all that is required with reference to claim 1, but fail to teach pixel correction.” To remedy this deficiency in the combination of Ogino and Toyoda, the Examiner relied on Prince et al., alleging, “Prince et al. teaches that the luminance limiting section is arranged to correct pixel values for pixels corresponding to the image display produced in the first display area and/or pixel values for pixels corresponding to the image display produced in the second display area (see column 6, lines 49-55).” Thus, the Examiner concluded, “It would have been obvious to one of ordinary skill in the art at the time of invention that it is possible to

have pixel voltage errors due to crosstalk, and that in order for the pixels to display correct luminance values, crosstalk correction is required, as taught by Prince et al. (see column 2, lines 4-29).” Applicant respectfully disagrees.

Applicant has amended claim 6 to recite the feature of “the luminance limiting section is arranged to correct pixel values for pixels of the image display produced in the first display area and/or pixel values for pixels of the image display produced in the second display area.” This amendment merely clarifies the features previously recited in Applicant’s claim 6 by simplifying the language of claim 6.

None of Ogino, Toyoda, or Prince et al. teaches or suggests this feature.

As discussed above, the Examiner admitted that “Ogino and Toyoda ... fail to teach pixel correction.”

Prince et al. teaches a correction circuit 74 that corrects supply voltages to be applied to the row driver 72 such that crosstalk that occurs between adjacent voltage lines 101 can be prevented. However, the correction circuit 74 of Prince et al. is only arranged to correct the supply voltage delivered to the row driver 72 from voltage sources 70P and 70N as shown in Fig. 3 of Prince et al. *The correction circuit 74 of Prince et al. is not arranged to correct the pixel values of the pixels because the pixel values of the pixels are supplied by video signals input to the controller 54 and not through the voltage sources 70P and 70N.*

Thus, each of Ogino, Toyoda, and Prince et al. clearly fails to teach or suggest the feature of “the luminance limiting section is arranged to correct pixel values for pixels of the image display produced in the first display area and/or pixel values for pixels of the image display produced in the second display area” as recited in Applicant’s claim 6.

Accordingly, Applicant respectfully requests reconsideration and withdrawal of the rejection of claim 6 under 35 U.S.C. § 103(a) as being unpatentable over Ogino, Toyoda, and Prince et al.

In view of the foregoing amendments and remarks, Applicant respectfully submits that claims 2, 5, and 6 are allowable. Claims 4 and 7 depend upon claim 2, and are therefore allowable for at least the reasons that claim 2 is allowable.

In view of the foregoing amendments and remarks, Applicant respectfully submits that this application is in condition for allowance. Favorable consideration and prompt allowance are solicited.

The Commissioner is authorized to charge any shortage in fees due in connection with the filing of this paper, including extension of time fees, to Deposit Account No. 50-1353.

Respectfully submitted,

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/Erik Preston #64,733/
Attorneys for Applicant

Joseph R. Keating
Registration No. 37,368

KEATING & BENNETT, LLP
1800 Alexander Bell Drive, Suite 200
Reston, VA 20191
Telephone: (571) 313-7440
Facsimile: (571) 313-7421

Peter Medley
Registration No. 56,125

Erik Preston
Registration No. 64,733